

*Troy weights and General currency of ancient Orissa.*—By BĀBŪ M. M. CHAKRAVARTI, *Subordinate Executive Service of Bengal.*

Little is known regarding the measures of weights of gold and silver, or of the coins and currency in use in Orissa at the time of Hindú kings. Sterling incidentally mentions certain weights in his lucid history of Orissa. But Dr. Hunter was the first to apply European criticism to find out the relations between gold, silver and other marketable articles of Orissa.\* As an intelligent attempt to clear up an extremely obscure question, his *History of Orissa* deserves all praise. It was published in 1872. Since then no one has tried to tread in his footsteps, probably owing to the absence of any reliable data. The following facts, therefore, are published in the hope that some ripe scholar may be induced to take up the threads and weave them into a harmonious whole.

My information is chiefly derived from “Mádalá Pánjí” or the Chronicle of the Temple of Jagannáth at Púrí. This work mentions the various measures in use, and furnishes details which indirectly reveal the proportions between the measures. The problem is to convert them into modern equivalents, otherwise they will not be properly understood. Here the greatest difficulty arises. Not much help is obtainable from contemporary Muhammadan historians. Orissa was one of the last kingdoms to come under the rule of the Paṭhāns and Mughals, and even then, being an out-of-the-way region, attracted little notice.

The Mádalá Pánjí was begun after the erection of the present temple of Jagannáth, the generally accepted date of which is 1197-98 A. D. It does not mention the names and relations of the measures in use before this time. Probably they were the same which we find later on. Orissa appears to have formed a part of Kalinga, and was often the battle-field between the emperors of northern Hindustán and kings of Kalinga. Kalinga was essentially a kingdom of the Deccan; and the Deccan measures must have prevailed in Orissa.

Chorganga† conquered Orissa in the beginning of the 12th century, and founded the well-known Gangavamśa. He came from far South, and the system in force in S. India came into full operation in Orissa during the reigns of his descendants.

According to the Mádalá Pánjí, Ananga Bhíma Deva of this dynasty built the present temple of Jagannáth, and liberally endowed it with

\* *History of Orissa*, Vol. I, ch. V, notes 309 and 337.

[† His Identity is uncertain, see Sewell's *Sketch of the Dynasties of S. India*, pp. 18, 19, 44, 51, 67. ED.]

ornaments and furniture. In giving a description of these endowments, the chronicle says:—

एते पदकु सुना रूपा मध्य म् ७३ ति सुना कम म् ५५ कु सुना प ८५६ लकुए पुयाविधि-  
निमन्ते दानीआ पल समासिए प १ मा ८६ लेखाए सुना मा ६८७२ ढ रूपा कम म् १८ ति  
प १३५ ल । ए प १ मा ८६ रूपा मा १०८० ढकुए रूपा कारणकु देला मा ५ सुना मा १  
ढ लेखाए मा २१६ ढ गाए प २ सुना रूपा कम मा ८०७३ ढ सुना देला मा ७०८८ ढ ।

“All these (ornaments) in gold and silver—73 pieces. Gold work 55 pieces = 859 pals of gold, or at the rate of pala measure used for gifts and ceremonies, *viz.*, 1 pala = 8 mārhas, = 6872 mārhas. Silver work 18 pieces = 135 palas, or at the rate of 8 mārhas per pala, = 1080 mārhas (in weight) of silver, or at the rate of 1 mārha of gold = 5 mārhas of silver, = 216 mārhas of gold. Total (in weight), gold and silver work 8073 mārhas, or (in value), gold 7088 mārhas.”

नौकर ६२ पालिकु पालि तीनी चीना लेखाए मा १८ । ६ चीना

“For net 62 turns (of worship), at the rate of 3 chínás (per turn) 18 mārhas, 6 chínás.”

These two extracts suffice to show the following proportions:—

$$10 \text{ chínás} = 1 \text{ mārha}$$

$$80 \text{ ,,} = 8 \text{ ,,} = 1 \text{ pala.}$$

A measure, very similar to this, still continues in the interior of the Púri District:—

$$4 \text{ ratis} = 1 \text{ chíná}$$

$$40 \text{ ,,} = 10 \text{ ,,} = 1 \text{ mārha}$$

$$80 \text{ ,,} = 20 \text{ ,,} = 2 \text{ ,,} = 1 \text{ tolá.}$$

For the highest weight, we have here a tolá. But a pala is an old weight found in Manu and the Atharva Pariśishṭha.\* In the Institutes of Manu, the measures of gold are stated to be

$$5 \text{ ratis} = 1 \text{ másha}$$

$$80 \text{ ,,} = 16 \text{ ,,} = 1 \text{ suvarṇa (agrees with tolá)}$$

$$320 \text{ ,,} = 64 \text{ ,,} = 4 \text{ ,,} = 1 \text{ pala or nishka (agrees with the pala of Mádala Pánjí).}$$

The coins of ancient India were used not merely as an exchange for articles, but as weights also. Their study therefore, throws much light on the troy measures. In South India, of which Orissa was to all intents and purposes a part, the fanam (पण of Lilávatí) was the standard coin of gold. The chínám appears to be another name of fanam, both being equal to 4 ratis. One rati is generally accepted to be equal to 1.75 grains on the average.† A standard fanam or chínám is, there-

\* Quoted in Thomas' *Chronicles of the Pathan kings of Delhi*, page 221, note 1.

† This ratio is accepted by Thomas and General Cunningham. But Mr. Smith differs (see his article in this Journal, Vol. LIII, of 1884, pages 146-7).

fore, equal to 7 grains. All old fanams approach this weight closely, varying from 6 to 7·5.\* A máṛha, which is ten times a chínam, would, therefore, be 70 grains in standard weight. Several old coins have been found approaching this weight. Sir W. Elliot mentions one coin of S. India weighing 66·9 grains.† Mr. Fleet has described six coins of E. Chalukya kings varying from 65·9 to 66·8.‡ In another essay I hope to show that Choṛganga, the founder of the Gangavaṃśa dynasty of Orissa, is connected with the E. Chalukya and Chola dynasties of the 11th century A. D. The coins, described by Mr. Fleet, would seem to be the máṛhas of the Mádala Pánji. The difference of 4 to 5 grains is due partly to wear and tear, but chiefly to the fact that fanams, which formed the unit of measurement, were generally in actual weight 6·5 to 6·75 grains.

That a coin approaching to 70 grains in wt., was in use in S. India is apparent from the contemporaneous Muhammadan records. 'Aláuddín Muḥammad Sháh was the first to invade the Deccan, and according to Mír Khusrú, he contemplated the introduction of a new coin of 140 grains, a weight exactly double the standard weight of a máṛha.§ His successor Muḥammad bin Tughlaq, who transferred the capital from Delhi to Daulatábád (Deogir) in the Deccan, actually issued a silver coin of a standard weight of 140 grains.|| Then again I find that 'Aláuddín before his installation distributed "5 máns of star gold" daily, and bribed some of the Málíks and Amírs to the extent of 50 máns of gold each.¶ Ferista mentions that Málík Káfur's plunder amounted to 96,000 máns of gold.\* These máns are evidently misspelt for máṛhas, for 96,000 máns of gold is an amount too preposterously enormous for such a rare metal as gold.

So far as I see, therefore, the proportions were as follows :—

1·75 grains	=	1 rati			
7	„	=	4	„	= 1 fanam or chínam
70	„	=	40	„	= 10 „ = 1 máṛha (? varáha)
560	„	=	320	„	= 80 „ = 8 „ 1 pala.

In course of time, the Gangavaṃśa dynasty was superseded by the

\* See the list given by Sir W. Elliot in Thomas' *Chronicles*, p. 170, note 1.

† See his remark in Thomas' *Chronicles*, note 2 to page 223.

‡ *Indian Antiquary*, Vol. XIX, 1890, page 70 *et seq.*

§ *Tárikh 'Alái* of Mír Khusrú, quoted in Thomas' *Chronicles*, pp. 158-9 note 1, and p. 247, note 1.

|| Coins 180, 181 and 182 of silver, pp. 213 and 214; half coin of brass No. 199, p. 250 of Thomas' *Chronicles*. Also Firuz Shah's coins, Nos. 228 to 233, pp. 275-6.

¶ Thomas' *Chronicles*, page 157 and note 1.

|| Brigg's translation, I, 374.

Gajapati Súryavaṃśa dynasty. Its founder was Gajapati Kapileśvar Deva, and it lasted from 1434 to 1535 A. D. or thereabout. During this time the máṛha coins diminished in weight to 61 grains. The reason is not clear, but the dearness of gold probably played some part in it. The fanams must have similarly diminished in weight. The gold coins described by Mr. Bidie are 60·24 and 60·75 grains.¶ Other coins of similar nature have been given in Mr. Wilson's "Description of select coins."\*

In 1568 A. D., Orissa was conquered by Kalápahár the general of Sulaimán Qirání, king of Bengal.† With this conquest, Orissa again became connected with Northern India, and the local coins were replaced by the mohurs and tankahs of Delhi. Regarding them, I need not trouble my readers.

From gold I come to silver. No silver coins of Orissa are to be found. Ferishta says that there was no silver coin in the Deccan.‡ Silver must however have been used for ornaments &c., though probably sparingly. The Mádalá Pánjí enumerates several silver ornaments and utensils. The measures of silver were the same as those of gold.

Much discussion has taken place about the ratio of gold to silver. This ratio differed in different times. The first extract (see *supra*) shows a ratio of 1 : 5 at the time of Ananga Bhíma Deva. This is the lowest ratio for gold that I know of. But it is by no means improbable. Gold was plentiful in Orissa, nay, in the whole of the Deccan. In the upper beds of the rivers Mahánadí, Baitaraṇí and probably of the Rishikulya, gold is still found,\* though in small quantities. The Malabar, and the Nílگیرis, particularly the district of Wainad are noted for their gold mines. While therefore gold was comparatively abundant, silver was dear on account of the difficulty in communication with North India, the home of Indian silver. Silver was so dear that no coins of that metal were issued in the mediæval period. I am not surprised, therefore, to see the value of gold fallen to 1 : 5. No better illustration of the abundance of gold can be given than the fact that the spoils alone of 'Aláuddín and Málik Káfur from the Deccan reduced the ratio of gold to silver in North India from 1 : 10 to 1 : 8 and then to 1 : 7.†

¶ Journ. As. Soc. Beng., Vol. LII, Pt I, No. 1, page 40.

\* *Asiatic Researches*, Vol. XVII, p. 593.

† The year of conquest has been fixed with accuracy as 1568 A. D. See Dr. Hunter's note to page 10, Vol. II, and Mr. Beames' article in this Journal, Vol. LII, p. 233 note.

‡ Brigg's translation, Vol. I, p. 374.

\* *Statistical Accounts of Bengal*.

† Thomas' *Chronicles*, page 235.

From silver to copper is an easy descent. No mention of copper coins is to be found in the *Mádalá Pánji*. Most probably in Orissa, such coins were not used in ordinary transactions. Their place was taken by the time-honoured cowries.

The cowries were counted by numbers, which were the same before as now.\*

4 cowries	=	1 gunda			
20 „	=	5 gundas	=	1 búrí	
80 „	=	20 „	=	4 „	= 1 pan
1280 „	=	320 „	=	64 „	= 16 „ = 1 káhán.

In the *Mádalá Pánjí* the accounts of Ananga Bhíma Deva are given in *márhas*, and no mention of cowries as units is to be found. This continued as long as the Gangavamśa dynasty lasted, for I find, that in the copper-plates of Nṛsiṃha Deva IV, the *márhas* are given as equivalents. With the advent of the Gajapati Súryavamśa, cowries became the units, and their gifts appear to have been calculated in cowries and silver tankahs.

कउड़ौ मूल अवदान ट १९२॥• ट १ का ८ लेखार का १५४•

“The original gift in cash Rs. 192-8 or at the rate of 8 káháns per rupee = 1,540 káháns.”

See also No. II of the left side inscriptions at Jaybijay door of the Jagannáth temple :—“paddy 500 bharans, cowries 2000 káháns.”

While the measures of cowries have remained the same, the ratio of them to other measures of the currency did not remain the same. The following shows the various proportions between coins and cowries, reduced to one common standard for facility of comparison.

I. In the *Lilávatí* completed by Bháskaráchárya in 1150 A. D.†

$$\left. \begin{array}{l} 16 \text{ panas (of cowries)} = 1 \text{ bharma of silver} \\ 16 \text{ bharmas} = 1 \text{ nishka of silver} \end{array} \right\} ‡$$

$$\therefore 1 \text{ nishka} = 16 \text{ káháns, and } 1 \text{ bharma} = 1 \text{ káhán.}$$

Colebrooke adds that the comparative value of silver, copper and shells was nearly the same then as in his time, *viz.*, 4 káháns per rupee.

N. B.—If these bharmas be identical with *Puráṇas*, the average weight of which was from 50 to 54 grains,§ then

$$1 \text{ modern rupee} = 165 \text{ grains of pure silver} = \frac{165}{50} = 3\frac{3}{10} \text{ bharmas or} \\ = 3\frac{3}{10} \text{ káháns.}$$

\* 'Ain-i-Akbarí, Gladwin's Translation, Vol. II, p. 15.

† R. C. Dutt's *History of India*, Vol. III, p. 379.

‡ Colebrooke, in *Asiatic Researches*, Vol. V, p. 91. Quoted in Prinsep's *Indian Antiquities*, Vol. I, p. 211.

§ Thomas' *Ancient Indian Weights*.

II. In the time of Ananga Bhíma Deva. (The latter part of the 12th century A. D.)

गए प २ कउड़ी का २८१२५० हाण ए कउड़ी का १५ हाणकु थीती सुना मा १ ढ  
कीखार मा १८७५० ढ ।

“Total of the two cowries 281250 káháns. At the rate of 15 káháns per one márpha of jiti gold = 18750 márphas.”

$$\begin{aligned} 1 \text{ márpha of gold} &= 5 \text{ márphas of silver} \\ &= \text{about } 350 \text{ grains of silver} \\ &= 15 \text{ káháns of cowries} \end{aligned}$$

$$\begin{aligned} \therefore \text{ a rupee of 165 grains (pure silver)} &= \frac{165 \times 15}{350} \text{ káháns.} \\ &= 7\frac{1}{4} \text{ káháns.} \end{aligned}$$

III. In the time of Purushottama Deva (1470—1497 A. D.)

$$1 \text{ tankah} = 8 \text{ káháns.}$$

This tankah is probably one of the Bahmaní kings, described by Thomas.\* Thomas does not give the weights, probably because the weights were nearly the same as those of the contemporary Delhi kings. Only one, I find, is stated to have been 165 grains.† The pure silver would not have been more than 160 grains in these tankahs,

$$\begin{aligned} \therefore \text{ a rupee of 165 grains} &= \frac{165 \times 8}{160} \\ &= 8\frac{1}{4} \text{ káháns.} \end{aligned}$$

IV. 'Ain-i-Akbarí of Abul Fazl (1590 A. D. circa)‡

$$1 \text{ rupee} = 10 \text{ káháns.}$$

Akbar's rupee was of pure silver nearly and 175 grains in weight,§

$$\begin{aligned} \therefore \text{ a rupee of 165 grains} &= \frac{165 \times 10}{175} \\ &= 9\frac{3}{7} \text{ káháns.} \end{aligned}$$

VI. In the time of Gopínátha Deva (1726 A. D.), an owl sat upon the crown of Jagannáth accidentally. A purificatory bath with *yajña* had to be performed in consequence. The *Mádalá Pánjí* gives details from which it appears that in the bazar

$$1 \text{ tankah} = 2 \text{ káháns } 2 \text{ pans of cowries.}$$

But in the account one tanka was calculated at 2 káháns, 3 pans. Taking the higher value, I find

$$\begin{aligned} 1 \text{ tankah (of the Mughal emperors)} \\ &= 175 \text{ grains} \end{aligned}$$

\* Thomas' *Chronicles*, pp. 342, 346.

† Thomas, *ibid.*, p. 342.

‡ Gladwin's Translation, Vol. II, p. 15.

§ Prinsep's *Useful Tables*, Vol. II, p. 22 (Ed. Thomas).

$$\begin{aligned}\therefore 165 \text{ grains} &= \frac{165 \times 2\frac{3}{16}}{175} \text{ káháns} \\ &= 2\frac{1}{16} \text{ káháns.}\end{aligned}$$

VI. In the beginning of this century (1803 A. D.), the official rate was

$$1 \text{ rupee} = 4 \text{ káháns.}^*$$

VII. The present rate (1891 A. D.) is

$$1 \text{ rupee} = 3\frac{1}{5} \text{ to } 3\frac{3}{5} \text{ káháns,}$$

being at the rate of 16 to 18 gundas per pice.

A glance at these figures will show that the cowries became cheaper and cheaper, till we come to the beginning of the eighteenth century. Then, all on a sudden, they became dearer, extraordinarily dearer, if the *Mádalá Pánjí* is to be believed. After some time, the value of the cowries fell to 4 káháns. At present the copper pices have driven them from the field. In the mofussil, cowries are now used only for fractions of pices and annas.

I conclude this brief essay with an estimate of the income of the Orissa kings as given in the *Mádalá Pánjí*. Ananga Bhíma Deva, the most celebrated monarch of the Gangavamśa, is said to have issued a mudul (royal order), reported in *extenso* in the aforesaid Chronicle. In that mudul he is made to say :—

“My predecessors beginning with Kesarí kings had an income of 1,500,000 márhas in jítí gold; I extended my kingdom and added an income of 2,000,000 márhas in jítí gold; my total income is 3,500,000 márhas.”

(Abridged translation.)

$$\begin{aligned}1,500,000 \text{ márhas of gold} &= 7,500,000 \text{ márhas of silver} \\ &= 525,000,000 \text{ grains of silver} \\ &= \frac{525,000,000}{165} \text{ modern rupees}\end{aligned}$$

or 3,181,818 Rupees

Similarly 3,500,000 márhas of gold  
= Rs. 7,121,212.

Dr. Hunter estimates the first income at Rs. 4,602,500† or nearly 50 per cent. more; but, if my reasonings be correct, neither his measures of gold, nor his ratio of gold to silver, can be accepted. In fact he himself has expressed some doubts about their validity.

\* Dr. Hunter's *History of Orissa*, Vol. I, note 337.

† *Ibid.*, Vol. I, note 309.